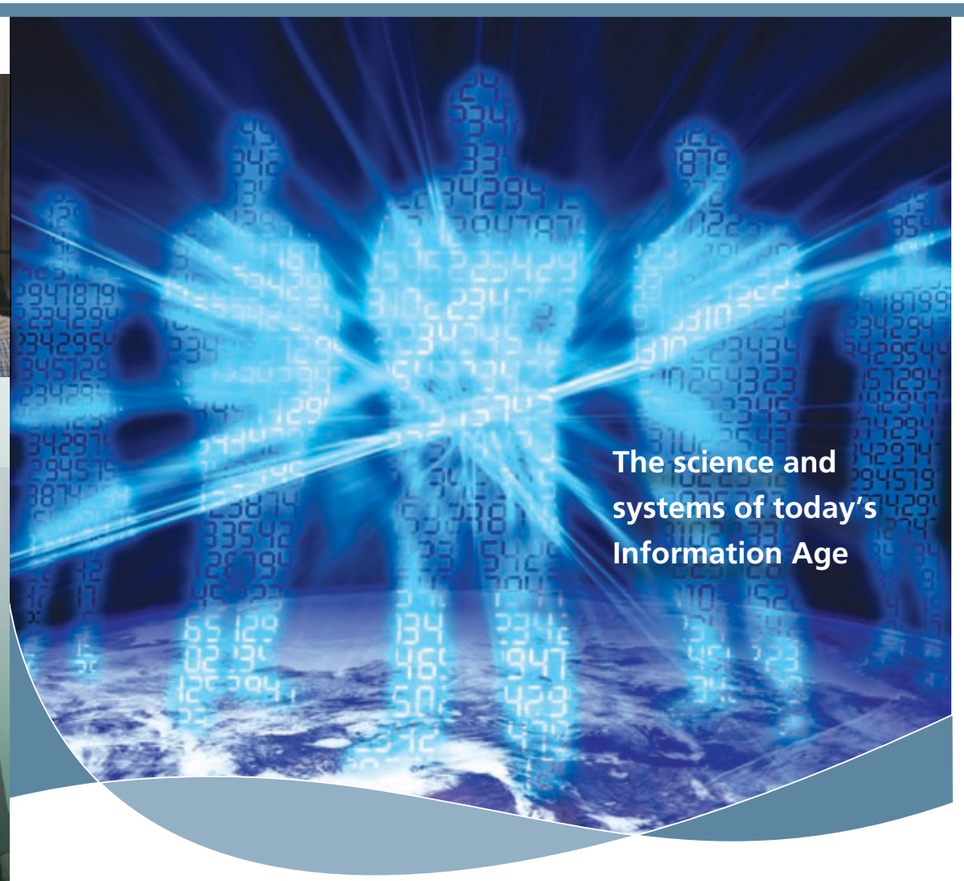
For more information contact:

Trent University
Department of Computing & Information Systems
1600 West Bank Drive
Peterborough, ON Canada
K9J 7B8

Tel: (705) 748-1011 ext. 7802
Fax: (705) 748-1066
Email: *cois@trentu.ca*

www.trentu.ca/cois

To view this document in an accessible format, please visit www.trentu.ca



LEARNING TO MAKE A WORLD OF DIFFERENCE.™

TRENT UNIVERSITY

Redefining How the Whole World Works … and Plays

Wow! In only 60 years, the field of computing and information systems has redefined the traditional ways of business, education, government, and entertainment. Virtually every organization and every field of study rely on computers and related technologies to succeed in the Information Age. Even our everyday vocabulary embraces words like The Internet, email, Google, FaceBook, YouTube, MP3, ATM, and Wii.

The study of computing and information systems is central to our understanding of how the world processes, manages, and communicates information using digital technologies. As a student, you learn to build and use computing and information systems. You learn to see things from a broader systems perspective and to develop integrated solutions which meet the needs of your users. And you learn to appreciate the far-reaching cultural, ethical, and legal impact of digital systems.

It is hard to imagine a world without computing and information systems. It is even harder to imagine our world in another 60 years. New software products and technologies continue to change our landscape almost daily. Even the products and technologies of other fields could not be developed without the support of computing and information systems. It is arguably the most revolutionary field of our lifetime and we extend a warm welcome to be part of our adventure.

These are remarkable times!

"I am very excited about our new and cutting-edge programs – with specializations in Computer Science and Software Engineering – which offer our students the opportunity to combine the scientific methodologies of software development, high performance computing, and data mining with the broader systems perspective on how the collection, processing, and dissemination of information is the lifeblood of today's organizations."

Brian Patrick, Chair (Computing & Information Systems)

Our Mission

To nurture a genuine interest in the field of computing and information systems.

To take a personal interest in your educational goals.

The New Specialist

The new specialist in computing and information systems is a multi-talented individual. No longer is he or she the lonely programmer squirreled away in a basement lab. Instead, employers and universities seek graduates who possess a number of important skills including:

- A solid foundation in the science and methodologies of computation
- Strong analytical, technical, and programming abilities
- Excellent proficiency in written and oral communication
- Multidisciplinary competencies to bridge the divide between user needs and software solutions
- An ability to see a bigger picture and to exploit the inter-relationships among systems for competitive advantage

It is a tall order, but our new programs in Computing & Information Systems strive to meet these criteria head-on. Even if you are taking another subject, a joint-major or minor in computing or information systems will leverage your skills immensely. Just think of bioinformatics, forensic computing, geographic information systems, decision support systems, and natural language processing, to name a few.

"Trent University was more than a solid formal education; it was an experience. The faculty and staff of Computing & Information Systems provided unfailing support and encouragement throughout my undergraduate and graduate studies ... and I enjoyed every moment. For an international student like me, it really was a dream come true."

Michael Jack, B.Sc. (Honours), M.Sc.

Our Programs

The Department of Computing & Information Systems offers two streams of study at both the general and honours level: Computing Systems (single-major, joint-major, and minor) and Information Systems (joint-major and minor).

Under the Computing Systems stream, two specializations are also offered for the honours student: Computer Science and Software Engineering. All streams and specializations can be taken as part of a B.Sc. or a B.A. degree, depending on your choice of other courses. However, almost all courses in the Department of Computing & Information Systems are counted as science credits. Therefore, you are encouraged to select courses across both streams to broaden your educational experience and perspective.

Computing Systems

As a computing systems specialist, you learn to design, implement, and integrate software applications for any number of hardware devices, from super-computers to game boards. You use the latest theories, methodologies, and techniques to ensure that applications are correct, well-written, and reliable.

"Taking advantage of the articulation agreement between my college and Trent University, I was able to complete my honours degree in two years. The faculty knew their material, knew their students on a first-name basis, and knew how to present challenging material in a friendly, relaxed atmosphere."

Krystal MacDonald, B.Sc. (Honours) student

Computer Science specialization

As a computer scientist, you are a problem solver at heart. You enjoy the challenge of working out solutions and seeing your solutions work for others. You design new models of computation and new ways of doing things to exploit the speed and power of the digital machine. You are at the cutting edge of the Information Age. Whether you are an expert in databases, web application development, networks, programming, or artificial intelligence, you are part of a rapidly evolving and dynamic field where the opportunity to make a major impact on the world is a real possibility.

Software Engineering specialization

As a software engineer, you oversee the entire software development process. You work as part of a team that designs, implements, tests, maintains, and documents complex software solutions which meet the requirements of your client. You draw on a toolset of rigorous methodologies and techniques to ensure that your final product is the right software at the right time for the right price. Not only do you have technical skills, but also interpersonal skills to work within the dynamics of a group. The highlight of the specialization in Software Engineering is a full-year team project (COIS 4000) which gives you an opportunity to apply your in-class learning to a real-world application.

Information Systems

As an information systems specialist, you look for better ways to get things done using computing technologies. You are concerned with the flow, storage, and access to information both within and across organizational boundaries. You are concerned with getting the right information to the right person at the right time. You have a broad systems perspective and an appreciation of both technical matters such as databases, networks, and telecommunications as well as non-technical matters such as ethics, law, and digital culture. You are a strategic partner of any organization with a valuable combination of technical, business, and systems skills.

Careers

There is a vast range of career choices in computing and information systems. And here are just a few: website developer, systems analyst, network manager, database administrator, consultant, software engineer, technical writer, game programmer, teacher, researcher, and entrepreneur. Because everyone depends on computers and related technologies, you may find work across the full spectrum of private and public sector organizations. Even businesses that outsource their information systems look to specialized companies around the world for their computing expertise, including Canada.

Graduate Studies

Your pursuit of graduate studies and research in computing and information systems is a chance to invent the future. It gives you the opportunity to explore areas of interest with greater depth, greater understanding, and quite possibly, greater insight than anyone before. Working closely with the talented faculty in our department, you benefit from a personalized and professional approach to research. As a graduate student you will enjoy the day-to-day contact, the smaller working groups, and the feeling that you are an integral and valuable part of our departmental life.

Faculty in the Department of Computing & Information Systems have diverse interests in software development and testing, parallel computation, distributed systems, performance analysis, and data mining.

If you are considering graduate studies in Computing & Information Systems at Trent University, please apply to the graduate program in the Applications of Modelling in the Natural and Social Sciences (AMINSS). This umbrella program recognizes the application of computational modelling and simulation across all fields.

Also, feel free to contact any one of our faculty below to explore the possibilities.

Wenying Feng, PhD (Glasgow) Modelling, performance analysis, and machine learning

Richard Hurley, PhD (Waterloo) Distributed systems, web caching, and liberated learning

Jim Jury, PhD (Toronto) Medical imaging and expert systems

Sabine McConnell, PhD (Queen's) Data mining and high performance computing

Brian Patrick, PhD (McGill) Parallel computation and programming languages

Stephen Regoczei, MSc (Toronto) Systems theory and conceptual modelling

A Sampling of Our Courses:

COIS 1010H: The Digital World

COIS 2750H: Computer Crime and Forensics

COIS 2800H: Digital Culture

COIS 3420H: Web Application Development

COIS 3750H: Online Business Principles

COIS 4400H: Data Mining

COIS 4320H: Computer Networks

COIS 4350H: High Performance Computing

COIS 4550H: Artificial Intelligence